



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

# REPORT TO THE AMERICAN GEOGRAPHICAL SOCIETY OF NEW YORK ON THE KINGDOM OF CAMBODIA, THE RUINS OF ANGKOR AND THE KINGDOM OF SIAM.

---

By J. G. G. D'ABAIN,

Ex-Commander-in-Chief of the army of the Kingdom of Siam, and Mandarin of the fifth class —  
Lhuang — Thone — Hane — Raxat.

---

TO THE HONORABLE PRESIDENT AND TO THE MEMBERS OF THE AMERICAN GEOGRAPHICAL SOCIETY OF NEW YORK. — I have the honor to submit to your respected judgment the result of my observations during my voyages, and of my studies on the curious and interesting countries of Indo-China, unfortunately too little known. I would feel only too happy if the truthful information which I am about to give you will prove of some use to the eminent society of which you are members, and if you will accept favorably this short sketch.

Cambodia was formerly called Kamphōxa-Nakhon, from which has been made the name of Cambodia, afterwards Kmer. It was then a great kingdom, extending from 8° 30' to 20° latitude. Its dominion extended over several States, including Lao and even Siam. About 300 years only have passed away since it lost its splendor. Attacked and harassed on one side by Siam and on the other by Cochin China it lost gradually almost its entire territory, and to-day there remains but an extent of about forty square leagues, divided into four provinces, viz.: Rhotisat or Poursat, Kampon-Sudī, Kampon-Som, and Kampot; the last two are maritime provinces.

About twenty-five years ago a Cambodian prince named Ougdouan was in prison at Bangkok (Siam), when the news came to that city that the king of Cambodia, his brother, who had taken refuge among the Anamites, had just lost his eye-sight. Immediately the King of Siam liberated Ougduang, conferred upon him the royal insignias, gave him large sums of gold and silver, and had him escorted with an army, under the orders of the Siamese general-in-chief, who

installed him as King of Cambodia. During the whole time of his reign, until his death, in 1864, Cambodia was tributary to Siam.

Ougduang left several children, the most important of whom were Phou-Kambô, twenty-five years old, and Phra-Nôrôdom, age twenty-four. At the time of the king's death, Phou-Kambô was in the northern provinces, Norôdom alone being in Udong, the capital.

During the same time, a man of great talents, M. de Loigréé, a lieutenant in the French navy, and commander of a gunboat, the "Hâche," then engaged in an expedition, landed at that city, and at once saw what great advantage he could derive from the circumstances for his government. Phou-Kambô, the heir to the crown, could not reach the capital in less than six weeks. Being a Siamese in his ideas, he (de Loigréé), resolved to profit by these circumstances, and, backed by his gunboat, he had Nôrôdom elected King of Cambodia, under the protection of France. Phou-Kambô heard at the same time of the death of his father and the coronation of his brother. With the aid of the mandarins who had remained faithful to him, he raised the standard of revolt, and during several years civil wars stained with blood and laid waste that rich but unfortunate country.

For two years Phou-Kambô, with the help of the Siamese and the kings of Lao, gained important advantages; among others may be cited the seige and capture of Udong, the capital, which he burned. Nôrôdom, aided by the French, after great exertions, preserved his crown. His brother, having been taken prisoner, was beheaded, as also all the principal mandarins, his officers. Nôrôdom transferred his court to Nuoum-Rhein, which became the temporary capital while the civil war was raging; but the country having been exhausted and ruined, that prince was unable to rebuild Udong and remained in the improvised capital, which thus remained definitively as such.

Cambodia is bounded on the south by the sea, north-west by Siam and east by the large River Mèkong. The country extending east is but a vast plain, whilst the west is mountainous and covered with forests. Its products are rice, ivory, silk, cardamom or Cambodia-gum, gamboge, indigo, etc. (See Products of Siam.) Its total population is about 2,000,000 inhabitants, of which seven-tenths are purely Cambodians; the remainder is composed of Siamese, Chinese, Anamites, Laosians, Malabars, etc. Outside of the great Mèkong river the country has no water-courses of importance, and the mouth of the Kumpot river is the only harbor left to the Cambodians by the Anamites. There is at that place a small town of the same name, with a population of about 60,000 inhabitants. It carries on an

extensive trade, there being several hundred junks and more or less American and European vessels generally to be seen there. The other cities of the kingdom are insignificant. We shall only name Pong-Som, Kampot and Pinhalu, situated at some distance from the capital. As to physiognomy, complexion, general form, and even manners and customs, the Cambodians resemble the Siamese, but they seem more dull and savage. The women are skillful workers of silk, and weave striped "langoutis," ornamented with flowers, which are prized for their color and durability. The Cambodians possess the secret of a black metallic composition called "samrit," to which they attribute imaginary qualities. For instance, they claim that in a vessel of that metal red lime chewed with bétel never dries up; that the surface of the water contained in a vessel made of samrit, is higher in the middle than on the sides, etc. The Khmer or Khmene language is very odd; all the words having reference to religion are alterations of "Bâli;" the rest is a language by itself, somewhat harsh on account of the great number of consonants, and having no analogy with that of the neighboring peoples. The letter "r" occurs very frequently in their language, and they roll it like the Parisians. Their written characters are elegant, but too complicated and difficult. For that reason good copyists are rarely to be met with among them. In former times, Cambodia had its own money; now that of Siam and Cochin-China, and even of China, is used. It consists in silver "ticals;" bars of the same metal, or "naës," and in zinc "sapeques"—1,200 sapeques are equal in value to a five-franc piece, or a Mexican dollar.

#### RUINS OF ANGKOR.

At the northern extremity of Cambodia is a pretty lake called Thalesap, which is about seventy miles in circumference. It abounds in fishes. Every year, at low water, a very delicate, large fish, called "savai," is caught in great numbers. It is salted with the ashes of the palm tree, which imparts to its meat a sugar-sweet savor. It is near the shores of that lake that the marvelous ruins of the Nokorvat or Angkor are situated. They consist in a vast palace, colonnades, pyramids and temples or pagodas; all of cut and chiseled marble. Some of the domes and arches are of such exquisite workmanship that the Cambodians never speak of them without stating that it is the work of angels and not of men. According to all probabilities, and from information I gathered on the very spot, these ruins date from the time of the famous Cambodian king, Phra-Pathum

Suri-Wongse, under whose reign *Somăna-Khôdom*, a “talapoint” of Ceylon, brought the sacred books of the Buddhists and introduced the religion of Buddha in that country, himself becoming a Buddhist and a great reformer of that religion.

### SIAM.

The brief account which I am about to give of the history of Siam is taken from the annals of that country, which I transcribed verbatim. These annals are divided into two parts. The first, composed of three volumes only, entitled “*Phongsăvadă-Mûangnûa*” (or History of the Northern Kingdom), gives the origin of the Thai, and an epitome of their history up to the foundation of Juthiă. This first part is full of fables and gives few historical facts. The second part, which commences at the foundation of Juthiă, is composed of forty volumes, and relates the unbroken history of the Thai nation up to the present time. It begins in these words: “About 500 years before Jesus Christ there were two brothers of the *Bramah* caste, contemporaries of *Somăna-Khôdom* (Buddha), who both became holy hermits. One was called *Saxanălai* and the other *Sithimoughon*. Their sons and grandsons inhabited the villages governed by a holy woman, mother of *Saribut*, who was then the first disciple of *Somana-Khôdom*,” et cetera. Under their advice their descendants built the town of *Sang Kalak*, which both hermits came to bless, and the kingdom of *Sajâm* was founded. This kingdom remained during several centuries under the dominion of Cambodia until the accession to the throne of King *Phra-Chaô-Uthong*. Concerning this prince there are two stories. The first is, that this king had been reigning for seven years in *Juthapat-Nakhon*, a city built by one of the predecessors of that prince, when the country having been decimated by a fearful plague, *Phya-Uthong*, with his whole people, abandoned their land, and having turned to the south-west, after twenty days marching, reached the shores of a large river, where they found a circular island. He (the king) crossed the river to inspect the island and found there a hermit, who told him that in past centuries *Somăna-Khôdom* had been there, and had predicted that subsequently a large city would be built there. *Phya-Uthong* was delighted to hear this, and determined to establish his residence on that island. He had walls erected, a palace was built for himself, and he settled there with his whole people, and gave to his new city the name of *Krump-Thèp-Maha-Vakhon-Si-Ajuthaja*, which subsequently became celebrated under the

name of Juthiä. There is another version regarding the foundation of Juthiä: In certain copies of the annals it is related that a king of the Thaï nation having founded the city of Kamphëng-Phet, had a son who was remarkable for his talents. At his birth Indra (chief of the angels) gave him a cradle of gold; it is for that reason that he was called Uthong. This prince having succeeded his father, sent some of his officers to reconnoitre the country to the south. On their return they reported to the king that they had found a country most fertile and abounding in fish. Phya-Uthong thereupon emigrated with his entire people and built Juthiä on the island mentioned above. This second version seems more probable than the first; for should the first be admitted, it would follow that the Thaïs of to-day are not descended from the Thaï, but from the Cambodian race.

Siamese era  
712.

Christian era  
1350.

Phya-Uthong, after having founded Juthiä, took the title of Phra-Ramé-Suén, king of Lophaburi. The following is a list of the states which were under his dominion:

- |                                |                    |
|--------------------------------|--------------------|
| 1. Malaka.                     | 9. Chantabun.      |
| 2. Hava.                       | 10. Phitsanulôk.   |
| 3. Tanaosi (Ténasserim).       | 11. Sukkothaï.     |
| 4. Nakhon-Si-Thamarat (Ligor). | 12. Phixaï.        |
| 5. Tavaï.                      | 13. Savankha-Lok.  |
| 6. Mo-Ta-Ma (Martaban).        | 14. Phichit.       |
| 7. Meô-Lam-Lóng (Molméin).     | 15. Kamphëng-Phet. |
| 8. Song-Khla.                  | 16. Nakhon-Savan.  |

Nothing remarkable occurred after the foundation of Juthiä, under his reign, except his war in Cambodia, from whence he brought back a great number of captives. He died, leaving the crown to his son, in 731 of the Siamese era, and 1369 of the Christian era. The Siam era begins on the day of its deliverance from the yoke of Cambodia.

The Thaïs have two eras. The religious, or "Buolha," which dates back to the death of Khôdom, is now in its 2,397th year. [It is generally conceded that the death of Buddha occurred 543 years before Christ.] The civil era originated with an old Siamese king who reigned at Sangkahlôk; it now counts 1,216 years, and commenced in the 638th year of the Christian era. The year is composed of twelve lunar months of twenty-nine and thirty days, alternately, and every three years an additional month (the eighth repeated) is added. The months have no particular names; they are designated as the first, the

second, the third month, and so on. The first month generally commences in December. There are two cycles, the great and the short. The short cycle comprises the twelve years having the following names: the year of the rat, of the ox, of the tiger, of the hare, of the great dragon, of the small dragon, of the horse, of the goat, of the monkey, of the rooster, of the dog, and of the pig. The great cycle comprises sixty years; it is composed of the short cycle five times repeated; the years are also grouped by decades.

This is what the annals relate with reference to this point: "At this time the land of the Sajāms was under the dominion of the king of Kamphōxa-Nakhon (Cambodia), and paid him a tribute. It is related that Phrā-Rūang himself went to pay his respects and offer presents to the king of that country. Among them was a basket full of water, which did not escape through the interstices. The king of Kamphoxa-Nakhon, amazed at such a miracle, formed the design to have Phrā-Rūang murdered, fearing that should he be suffered to live, he would soon, through his genius, rise above all the other kings, but at the moment when the soldiers were about to seize Phrā-Rūang to kill him, this prince, gifted with the power of the Naghas (genii) sank down through the earth and disappeared; a few days later he was back in his dominions. From that time not only did Phrā-Rūang pay no more tribute to the king of Kamphōxa, but he was compelled to acknowledge him as his liege. It was at this time that the Sajāms took the name of Thaïs, which means 'free.'"

The country which we call Siam is named Murang-Thaï (kingdom of the free), in the vernacular of that country. Its former name was, as above mentioned, Sajām (brown race), whence is derived the word "Siam." Before the Portuguese had conquered Malacca, the dominion of Siam extended over the whole Malay peninsula, to Singapore. Subsequently, at the instigation and with the assistance of the English, the states of Djohore, Rhumbo, Salangore, Pahang and Perah, freed themselves from the rule of the sovereign, so that now the kingdom of Siam only begins at Tringam and extends from the 4° north latitude to the 22°, that is, a length of about 450 leagues. Its greatest width from east to west is about 150 leagues — from the 96° to the 102° longitude. It is bounded on the north by several Lao principalities, tributaries of Ava, or China; on the east by the Anam empire; on the west by the sea and the English possessions of the peninsula, and on the south by the small kingdoms of Pahang and Perah. The area of the kingdom of Siam is estimated to be about 12,330 square geographical miles.

The government of Siam is a despotic one to the fullest extent; the king is feared and respected almost as a God; nobody dares to look him in the face; when the courtiers attend an audience, they remain prostrated on their knees and elbows; when his majesty passes any where, everybody prostrates themselves to the ground, and should any one decline to submit to that custom, he would be liable to have his eyes put out by the archers who precede the king, and who are very skillful in shooting earthen bullets with a bow ever kept ready for use. The king's titles are very emphatic; he is called "Chào-phên-din" (the master of the earth), "Chào-Vivit" (the dispenser of life) "Phra-Maha-Krasat" (the august, great emperor), etc., etc. In Siam the crown is hereditary, but the eldest son of the royal family does not necessarily succeed to the throne as of right; the king can select his successor. Although the king of Siam has a despotic and absolute power, he is nevertheless subjected to certain rules to which he must conform; these rules are contained in a book entitled "Phra-raxa; mon thieraban." This book prescribes the hour of his rising and of his bath, the offerings to the talapoints, the time of audience for the mandarins, etc., etc. The king of Siam is very rich, which is easily accounted for, when it is known that all the taxes and imposts come to swell his treasury; to this add the presents and tributes of the kings and princes, who are under the dependency of the empire, and the produce of gold, copper and tin mines, which are worked for his special benefit. It is true his expenses are very large, for he has to pay the princes, the mandarins and the soldiers, besides the expensive maintenance of his extensive seraglio. According to an old custom, the king has a private treasury to which he can only resort in extreme necessity, and the successor adds to that which his predecessor has hoarded.

It is the custom in Siam to have a second king, who was formerly called "uparat," and is now styled "vangnà." He is usually a brother or cousin of the first king. He has an immense palace, which is almost as fine and sumptuous as that of the first king; he also bears the royal insignia; all passers-by are compelled to prostrate themselves before his pavilion situated on the banks of the river. He has his own court, his officers, his mandarins, precisely as the first king. It is he who generally leads the armies in times of war. The first king never undertakes anything of importance without his approval. He must, nevertheless, visit the first king from time to time; on such occasions he salutes by raising both his hands, but does not prostrate himself, and remains seated, leaning on his



elbow, as if an equal. It is a remarkable fact that previous to the slight misunderstanding which lasted but a few days last December between the two cousins, the vangnâ had always lived harmoniously with the king. The royal treasury stands at the disposition of the vangnâ whenever he needs it; but the request for funds must previously be submitted to the king, who approves of it by affixing his seal to it, after which it is transmitted to the high treasurer, who delivers the required sum.

#### POLITICAL DIVISION.

The kingdom of Siam is divided in forty-one provinces, bearing the name of their capital, viz.:

##### *Nine provinces in the Center.*

- |                             |                  |
|-----------------------------|------------------|
| 1. Nouthaburi or Chhalalat. | 6. Ang-Thong.    |
| 2. Khuan.                   | 7. Mûang-In.     |
| 3. Pak-Tret.                | 8. Xaimât-Nakon. |
| 4. Pathummathani or Samkôk. | 9. Savan.        |
| 5. Tnthia or Krung-kao.     |                  |

##### *Five to the North.*

- |                              |            |
|------------------------------|------------|
| 1. Sâng-Khalôk.              | 4. Phixat. |
| 2. Phitsalôk or Phitsaunlok. | 5. Rahêng. |
| 3. Kampheng-Phet.            |            |

##### *Ten to the East.*

- |                  |                          |
|------------------|--------------------------|
| 1. Phetxabûn.    | 6. Pachim.               |
| 2. Bua-Hum.      | 7. Kabin.                |
| 3. Sara-Buri.    | 8. Sasông-Sâo or Petrim. |
| 4. Nophaburi.    | 9. Battaboug.            |
| 5. Nakhon-Najok. | 10. Phanatsanikom.       |

##### *Seven to the West.*

- |                               |                                 |
|-------------------------------|---------------------------------|
| 1. Mûang-Sing.                | 5. Nakhon-Xaisi.                |
| 2. Suphamaburi or Suphan.     | 6. Sâkhouburi or Thachin-Samut. |
| 3. Kanchanaburi or Pak-Phrêk. | 7. Songkhram or Mè-Khlong.      |
| 4. Raxaburi or Rapri.         |                                 |

##### *Ten to the South.*

- |                                |                           |
|--------------------------------|---------------------------|
| 1. Nakhon-Khûen or Pakhlât.    | 6. Thung-Thaï.            |
| 2. Samuthapranakan or Packnom. | 7. Phétxaburi or Phiphri. |
| 3. Halaburi or Bang-Plasoï.    | 8. Humphon.               |
| 4. Rajong.                     | 9. Haija.                 |
| 5. Chanthaburi-Chanthabun.     | 10. Halang or Salâng.     |

Besides these forty-one provinces, each governed by a “*phya*,” or mandarin of first rank, there are about twenty provinces of second and even third order, which are administered by mandarins of an inferior rank. Besides the kingdom of Siam (properly called), which is in the center, that country includes also, at the south, the kingdom of Ligov and four small Malay states, viz., Ouédah, Patani, Calantan and Tringann ; to the east, part of Cambodia, Mŭang-Korăt and several Lao principalities ; at the north the kingdoms of Lao, Hieng-Mai, Laphun, Lakhon, Muâng-Phrĭ, Muang-Vang, Muang-Lôm and Luang-Phra-Bang ; to which must be added the tribes of the Kongs, Kariengs, Lavas, et cetera. All these small states, tributaries of Siam, are compelled to present, every third year, gold and silver trees, and to furnish a certain number of troops, when required. Moreover, each of these states pays to its sovereign a tribute consisting of tin, ivory, benzoin, wax, cardamom, laque, teck-wood, and other productions, which vary according to the country. The population of that extensive country is not in proportion to its size ; it is only about 8,000,000 inhabitants, who are distributed as follows :

Siamese or Thaïs.....	2, 500, 000
Chinese .....	2, 000, 000
Malays .....	1, 800, 000
Laos .....	400, 000
Cambodians .....	800, 000
Pegonans .....	150, 000
Birmans .....	600, 000
Kariengs, Xongs, and Lavas.....	40, 000
Klings, Arabs and Barmas.....	50, 000
	<hr/>
	8, 000, 000
	<hr/>

The great plain of Siam is bounded on the east and west by two mountain-ranges which extend from China, and are ramifications of the Hymalaya. The eastern range terminates at Cambodia, and the western extends to the extremity of the Malay peninsula. In the north these two mountain ranges draw near and form a number of small branches, which make of Lao a country almost entirely mountainous. The great plain, which is 150 leagues in length by fifty in breadth, is furrowed and watered by the large river Mě-Nam, and several other rivers and innumerable canals, bordered with bamboos, tamarinds, and other fruit trees. It is also here and there dotted

with old palm-trees, the shelter of myriads of aquatic birds. The mountains, which rise in the form of an amphitheater, are all well wooded, and most of them are covered with impenetrable forests. The sea-shores offer highly picturesque and varied views along the coast from time to time; numerous islands are also seen, most of them adorned with a luxuriant vegetation, and yet but few are inhabited. In the Malay peninsula small rivers, or brooks only, are to be found, whose course is but thirty, fifty, scarcely ever 100 miles long; but the eastern part of Lao and Cambodia are watered by a large river called Mē-Kong, which is over 2,000 miles in length. An idea of its width can be formed from the fact that an elephant seen from the opposite shore is scarcely discernible. Chanthabun has a pretty river, which, in the rainy season, overflows and fertilizes a small plain about forty miles long. The rivers Pêt-Rin, Tha-Chin, and Mē-Khlong have a majestic mouth, and also fertilize the great plain of Siam by an annual inundation, uniting their waters with that of the Mē-Nam river (mother of the waters), whose course is about 1,000 miles long, and which heads in Chiang-Mai, receives a large tributary coming from Phitsalôk, and a little below separates in several branches, which water the great plain, unite above Bangkok, and at last debouch into the sea, eight leagues below the capital.

#### CLIMATE.

The climate of Siam is more or less warm, according to the latitude, but the heat is bearable, as it can be tempered by frequent baths; besides, the abundant rains which fall during the warm season cool the temperature. Strictly speaking, there are but two seasons—the rainy and the dry seasons. As soon as the south-west monsoon commences to blow, the winds which have passed over the seas bring every day white clouds, which in the evening collect along the summits of the great range of mountains which bound Siam on the west, and at sunset a violent wind rises; these condensed clouds are scattered, the thunder rumbles, and in the midst of the tempest an abundant rainfall waters the whole plain. During the whole rainy season this phenomenon renews itself almost daily, and every evening one can almost certainly expect a violent thunder storm. Every year in March another rather singular phenomenon takes place, but with the dew. At the dawn of day the atmosphere becomes filled with white fog, and scarcely has the sun risen when this fog resolves itself into an abundant dew, even to the extent of running like rain from the roofs of the houses and the leaves of the trees.

## CUSTOMS.

The Siamese belong to the variety of the human family which ethnologists call the Mongolian race. Their average height is five feet to five feet six inches; their lower limbs are strong and well proportioned, the body long, the shoulders broad, and the chest well developed; a short neck and a well poised head; their hands are large, their complexion olive; the upper part of the forehead is narrow, the face wide between the cheek bones and the chin again narrow. The eyes are black and well shaped, the white being of a yellowish tint; the nose is slightly flattened, the nostrils expanded; the lips protrude a little, the hair jet black and coarse. They dress the hair in a tuft on top of the head, the rest of the head and the face being shaved, and pull out the scanty hair which grows on their chin and upper lip. The women also keep a tuft of hair on their head, but of less height, and always oiled and well combed. The Thaïs have no geographical maps, not even of their own country. They simply write in succession the names of the cities and villages of each province, stating their approximate distance. But few princes or mandarins possess European atlases or maps.

## MINERALS.

The principal minerals found in Siam may be mentioned. There are extensive salt works where the sea-water is evaporated under the heat of the sun. When the crust is sufficiently thick it is broken, the salt gathered in large heaps and then loaded on barges. Besides the ordinary salt, a bitter salt or sulphate of magnesia is formed, which is used as a purgative. In Siam a great quantity of saltpetre is used for the manufacture of gunpowder and fireworks. This is the way in which it is prepared: The ammoniacal dung of the bats is gathered in the caverns where they live; it is allowed to remain several days in lye water; it is then filtered, evaporated in a large open cauldron, and, on cooling, fine crystals of saltpetre are obtained.

Gold is found in several localities, but the most celebrated gold mine is that of Bang-Taphan, in the province of Humphon, at the foot of high mountains, called the Three-Hundred-Peaks. Gold is found in grains up to the size of a pepper-corn.

Silver has not yet been found in the native state, but it has been found in combination with copper, antimony, lead and arsenic.

Copper mines are very abundant. There are mountains almost

entirely composed of carbonate of copper, which yield thirty per cent. of metal. Almost the whole of the copper which is obtained has been used until now to make colossal idols.

It is tin which constitutes the greatest mineral wealth of Siam, being found in abundance in several provinces, especially in those of Halang, Haija, Humphon, Rapri and Phâk-Phrèk. The greatest part of that trade is done with Singapore, which can be said to be almost exclusively supplied with that ore from Siam. There are also in the mountains of Phâk-Phrèk and of Suphan abundant lead mines, which undoubtedly contain silver. Antimony and zinc are to be found in the mountains of Rapri, but they are not mined. I have seen the iron mine of Tha-Sing, of which the Chinese have reaped such benefit. A canal leads to it. The ore is found in large pebbles of carbonate of iron, which cover the plain over a considerable extent. It is asserted that this iron is natural steel. It is certain that there are precious stones in several localities of the kingdom of Siam, since in my travels I have frequently found specimens in the beds of torrents and among pebbles ; but nowhere are they so numerous as in the province of Chanthabun. The king of Siam has reserved for himself certain localities where the precious stones are finest and most abundant. It is the governor of that province who is commissioned to have them worked and to send the finest gems to the palace, where unskillful Malay lapidaries polish and cut them according to their own fashion. The finest I saw at that mandarin's were large pieces of quartz perfectly transparent, cats-eyes or chatoyant stone of the size of a small walnut, magnificent topazes, hyacinths, garnets, dark-blue sapphires, rubies of various shades, etc.

#### VEGETABLE PRODUCTIONS.

The vegetables which grow in those countries are almost entirely different from ours, and a list of them would be both long and tedious. I shall merely mention the most important and interesting. They are rice, the principal food of that people, of which there are forty varieties ; arec, bétel, curcunia or saffron, corn, cucumbers, pumpkins, turnips, cabbages, mustard, lettuce, patèques, or water-melons, melongènes, or melons of every shape and color, tomatoes, celery, mint, parsley, chervil, cumin, coriander, garlick, onions, leeks, peas, beans, and many other edible plants whose English names are unknown to me. There are several varieties of potatoes in the mountains and forests. In several provinces a very precious and

useful plant is cultivated; it is the ground-pistachio, whose roots are covered with beans, very good to eat; excellent cakes are made with it. The sesame is also cultivated. A species of large basilie, called meng-hak, produces a small seed, a pinch of which, in a glass of water, swells, fills the whole glass, and forms a very palatable and refreshing emulsion. Canals and ponds also produce plants precious for their utility; the lotus, with its long, succulent stems, whose seed makes an excellent meal; the macre, or water-chestnut; the bind-weed, whose tender stems, when cut off, immediately grow again and multiply rapidly; also, a species of cress with hairy stems, etc., etc. The principal productive trees are several kinds of palms, the sago, the dourion, the mangoustan, the mango, the bread-tree, the jaquier, the jamboisier, the ma-prang, or plum-tree, with golden-colored plums; the lamut-sida, another variety of plum-tree, but bearing a reddish-brown fruit; the thakhole, another kind of plum-tree, the fruit of which is red, but the pulp green; it is agreeably tart and strewn with small seeds, which are swallowed with the pulp; the China fig-tree, which produces a smooth-skinned, golden-colored fruit, highly perfumed; the lam, three species of jai, or litehi, the sathon, the tamarind, the guava, the papan-tree, the custard-apple, the banana, several species of orange-trees, the lemon-tree, the jujube-tree, the pineapple, the carambol, wild olives, the almond-tree, the makok-tree, the India poplar, the pipal-tree, wild grapes, bamboos, the rattan, dye-woods, teck-wood, cinnamon, turpentine oil, sandal-wood, ginger, pepper, tobacco, coffee, cotton, sugar, benzoin, the eagle-wood, cardamom, gamboge, indigo, gutta-percha, and the tree which the Siamese call rak. This is a variety of the banana, also called varnish-tree; it yields that fine varnish which is so much admired on the small articles of furniture which are brought from China.

Among the flowers which we possess in America, and which are also found in Siam, I have remarked several varieties of roses, the immortelle, the India-pink, the jessamine, the night-shade, the amaranth, the small lily, the sunflower, the pink-laurel. According to the Siamese, it is not the rose which is the queen of flowers, but the large memphar, which is also called nymphaea, or lotus. They have also the mali, the champa, the kadanga, the phut, etc., etc.

#### ANIMALS.

I do not pretend to mention here all the animals which inhabit those countries, as the list would be too long, but shall merely name

the principals: The white and black elephant, three species of tigers, the rhinoceros, the horse, the ox, the buffalo, the tapir, the bear, the pig, the wild boar, the porcupine, the elk, the stag, the deer, the roe, the gazelle, the wild goat, the dog, the cat, the civet-cat, several species of monkeys and squirrels, the otter, the hare, different varieties of rats, etc., etc. The small eagle, the hawk, two kinds of vultures, the argala, the crow, the owl, the eagle-owl, the scops-eared owl, the fern-owl, the karien, the pelican, the crane, the heron, the cormorant, the stork, the wild goose, the diver, the water-hen, the teal, the gull, the alcyon, the white ibis, the peacock, several varieties of pheasants, the wild-rock, the toneau, the calao, several species of parrots, two kinds of partridges, pigeons, turtle-doves, black-birds, dominicans, humming-birds, etc., etc. The bats, several kinds of crocodiles and lizards, the chameleon, the flying-lizard or dragon, the small boa constrictor, several kinds of serpents and frogs, centipedes, scorpions, cancrelas mosquitoes, several kinds of fire-flies or luciolles, etc., etc. Divers species of turtles, whales, the blower, the porpoise, the shark, the saw-fish, the dolphin, the bonito, the gold-fish, the ray, the sole, the salmon, the sardine, the sea-shrimp, the kapi, the crab, the sea-dog (or sea-bichon), the kahi-khraï, the mengphũ, the retreating-fish, the dog-tongue, the craw-fish, the eel, the mussel, the oyster, the cowry, the tridacne, the pearl-mussel, the crumpet-shell (or whelk), the nautil-tarck, etc., etc., and a great number of other cetacea, fishes, mollusks, etc., etc., whose Siamese and English names I do not recollect.

#### DESCRIPTION OF THE TEMPLE OF ANGKOR.

Nokhor, or Angkor, was the capital of the ancient kingdom of Cambodia, or Kmer, formerly so famous among the great states of Indo-China, that almost the only tradition preserved in the country mentions that empire as having had twenty kings who paid tribute to it, as having kept up an army of five or six million soldiers, and that the buildings of the royal treasury occupied a space of more than 300 miles.\*

In the province still bearing the name of Ongkor, which is situated eastward of the great lake of Touli-Sap, towards the 14° of north latitude, and 104° longitude east of Greenwich, there are on the banks of the Mekon, and in the ancient kingdom of Tsiampais (Cochin China), ruins of such grandeur, remains of structures which must

\* See Mouhat, Henry — London, 1864; in two vols., vol. I.

have been raised at such an immense cost of labor that, at the first view, one is filled with profound admiration, and cannot but ask what has become of this powerful race, so civilized, so enlightened, the authors of these gigantic works?

One of these temples — a rival to that of Solomon, and erected by some ancient Michael Angelo — might take an honorable place beside our most beautiful buildings. It is grander than any thing left to us by Greece or Rome or Persepolis, and presents a sad contrast to the state of barbarism in which the nation is now plunged.

Unluckily the scourge of war, aided by time the great destroyer who respects nothing, and perhaps also by earthquakes, has fallen heavily on the greater part of the other monuments, and the work of destruction and decay continues among those which still remain standing, imposing and majestic, amidst the masses of ruins all around.

One seeks in vain for any historical souvenirs of the many kings who must have succeeded one another on the throne of the powerful empire of Maha-Nocor-Khmer. There exists a tradition of a leprous king, to whom is attributed the commencement of the great temple, but all else is totally forgotten. The inscriptions with which some of the columns are covered, are illegible; and, if you interrogate the Cambodians as to the founders of Angkor-Wât ("Wât," temple), you invariably receive one of these three replies: "It is the work of the giants," "It was built by the Leprous King," or else "It made itself."

The work of giants! The expression would be very just, if used figuratively, in speaking of these prodigious works, of which no one who has not seen them can form any adequate idea; and in the construction of which patience, strength and genius appear to have done their utmost in order to leave to future generations proofs of their power and civilization.

Although making no pretention whatever to architectural or archæological acquirements, I will endeavor to describe what I saw for the benefit of others interested in these sciences, and, as well as I can, to draw the attention of eastern *savans* to a new scene. I shall commence with the temple of Angkor, the most beautiful and best preserved of all the remains, and which is also the first which presents itself to the eye of the traveler, making him forget all the fatigues of the journey, filling him with admiration and delight, such as would be experienced in finding a verdant oasis in the sandy desert. Suddenly, and as if by enchantment, he seems to be transported from barbarism to civilization, from profound darkness to light.



Before arriving at Angkor, from Battambang, having previously crossed the great lake from the mouth of either of the currents which traverse both these localities, you come upon a stream, which, in the dry season, you ascend for a couple of miles, and reach a spot where it becomes somewhat larger, forming a small natural basin, which serves the purpose of a kind of harbor. From this place a raised causeway, still passable at the present day, and extending as far as the limit which the waters attain at the period of the inundations, that is to say, over a space of three miles, leads to New Angkor an insignificant little town, the capital of the province, and situated fifteen miles to the north-north-west of the shores of the lake.

If, starting from this point, you follow for about a couple of hours in the same direction a dusty, sandy path, passing through a dense forest of stunted trees, and having also frequently crossed the river, which is exceedingly sinuous in its course, you will arrive at an esplanade about twenty feet wide by ninety long, parallel to the building. At each angle, at the extremity of the two longer sides, are two enormous lions, sculptured out of the rock, and forming, with the pedestals, only a single block. Four large flights of steps lead to the platform.

From the north staircase, which faces the principal entrance, you skirt, in order to reach the latter, a causeway 700 feet in length by nine feet in width, covered or paved with large slabs of stone, and supported by walls of great thickness. This causeway crosses a ditch 675 feet wide, which surrounds the building; the revetment, ten feet high by three thick, is formed of ferruginous stone, with the exception of the top row, which is of freestone, each block being of the same thickness as the wall.

#### PRINCIPAL ENTRANCE.

The edifice forms a long gallery with a central tower, and two others, of rather less altitude, about 100 feet distant from the former. The portico of each tower is formed of four projecting columns, with a staircase. At each extremity are similar porticos, beyond which, but immediately contiguous thereto, is a high door or gateway, on the same level, which serves for the passage of vehicles. From constant use the wheels have worn two deep ruts in the massive flagstones with which the ground is paved.

Upon the west side the gallery is supported by two rows of square columns; on the east, blank windows have been let into the wall with stone railings or balconies of twisted columns, fourteen centi-

meters in diameter. The whole of this side, within three feet of the ground, and one foot and a-half of the cornice, is covered with sculptures executed with marvelous artistic skill.

The roof — and in this respect it resembles all the other buildings — is a double one, constructed externally of sculptured stone, the blocks in the interior being plain ; they were formerly hidden by a ceiling, also sculptured, of which some remains may still be remarked. The edifice divides the wall into two equal parts ; upon the other sides, and facing the monument, are three pavilions, 120 feet in length.

This imposing colonnade, which, from its great length and beautiful proportions, attracts the eye from a distance, forms a fitting entrance to the great monument.

#### THE TEMPLE.

Commencing from the building which forms the principal entrance, is a second causeway, thirty feet wide by 1,050 feet in length ; it is raised three feet and a half from the level of the ground. It is covered with huge blocks of stone, carefully joined together throughout its entire length, and is surrounded by a balustrade, partially in ruins, about ten centimeters high, composed of long stones, with beveled edges, very massive, and covered with sculptures. On each side are six platforms of earth, ascended by several steps, upon each of which is a serpent with seven heads, some of which are erect, others thrown back.

In the center of the causeway are two elegant pavilions, one on each side, having at each extremity a portico 110 feet in length. At the end of the causeway, and at the foot of the terrace, on each side of the latter, are two ponds or sheets of water. A balustrade like that of the causeway and like it resting upon a sculptured basement, springs from the foot of the terrace and runs all round the monument. At certain intervals there are large staircases of several steps each.

#### THE TERRACE.

The terrace is seven feet in height, and is surrounded by 112 fluted columns, surmounted by capitals, formed in each case of one single block of stone. The basement, like that of the whole building, is ornamented with very beautiful sculptured cornices, varied in style, and entirely covered with delicate carvings representing roses and arabesques, worked with the chisel, with a taste and skill equally wonderful.

This terrace forms a cross, each arm of which is 390 feet in length, and forty wide. There are three flights of steps, upon each of which are four lions reclining upon their pedestals.

#### THE PORTICO.

This is twenty feet in length, and is supported by six columns, four of which are detached from the monument. The temple is formed of three distinct parts, raised in the form of terraces, one above the other.

#### THE GALLERIES.

The galleries form a rectangle, the façade of which is 550 feet in length ; the sides 700 feet by about fifteen feet. The vaulted ceilings of the galleries are raised twenty feet from the ground ; those of the second roof are fifteen feet high. The two roofs are supported by a double row of columns, the first being twelve feet and the second eight feet high, by two feet broad. The columns are square, and, like all other buildings in the province, are formed of single blocks. There are five staircases on the west side, the same number on the east, and three on each of the remaining sides. The basement is twenty feet in height, the length externally forming a terrace of six feet. Each portico is composed of three roofs, raised one above the other, which contribute materially to give the architecture of these long galleries a monumental appearance, producing a singularly beautiful effect. The opposite side of the wall to the double colonnade is, from the lowest row of cornices to four feet above its base, covered inside with bas-reliefs having externally blank windows with balustrades. There are two rows of cornices, the first part immediately above the columns, and the space, to the extent of nearly four feet, which lies between them, is filled up by roses and other sculptured designs. The bas-reliefs represent the combat of the king of the apes with the king of the angels.

(These sculptures represent the story of the Hindoo Ramdyana of great reputation among Buddhist nations. The angel is Ramana, king of Ceylon, and the king of the monkeys, Hanuman, Rama's general.) In the center is the king of the angels, drawn by two griffins ; he has seven heads and twenty arms, with a sabre in each hand. Some of the chiefs are seated in cars drawn by fabulous animals, while others are mounted on elephants. The soldiers are armed with bows, javelins or sabres ; but the apes have generally no

weapons except their formidable claws. A few of them have clubs, sabres or branches of trees.

In peristyle No. 1, is represented the march of warriors mounted on birds, horses, tigers and fabulous animals; the horses of the chiefs are led by the bridle. On the right the soldiers are advancing towards the scene of combat in the center, but here there are no fantastic animals.

The bas-reliefs of the second peristyle also represent a combat between the king of the apes and the king of the angels, and the death of the former. Close by is a boat filled with rowers, all with long beards, and some of them attired in the Chinese fashion. The group is admirable for the natural positions and for the expression given to the faces. A cock-fight and women at play with their children are also represented. It is in these bas-reliefs that the highest degree of skill is shown. Other subjects follow, the meaning of which I could not discover.

On the south side, to the left hand, is a military procession — bodies of soldiers headed by chiefs, some mounted on elephants, others on horseback, and each corps carrying different arms: lances, halberds, javelins, sabres and bows. On the right are two series, one representing the Hindoo paradise Swarga, the other the Hindoo infernal regions Naralma. A crowd of persons are entering paradise, and are received in palanquins; they have with them banners, fans, parasols, and boxes for holding betel, without which even paradise would not be perfect happiness to a Cambodian.

A triumphal march in paradise shows the elect seated on a magnificent dais, surrounded by a great number of women, with caskets and fans in their hands, while the men are holding flowers and have children on their knees. These appear to be all the joys of paradise.

The punishments of the infernal regions, on the contrary, are varied and numerous; and while the elect, who are enjoying themselves in paradise, are all fat and plump, the poor condemned beings are so lean that their bones show through their skin, and the expression of their faces is pitiful and full of a most comic seriousness. Some are being pounded in mortars, while others hold them by the feet and hands; some are being sawn asunder; others are led along like buffaloes, with ropes through their noses. In other places the comphubal (executioners) are cutting men to pieces with sabres, while a crowd of poor wretches are being transfixd by the tusks of elephants or on the horns of rhinoceros. Fabulous animals are busy devouring some; others are in irons, and have had their eyes put out.

In the center sits the judge with his ministers, all with sabre in hand, and the guilty are dragged before them by their arms or feet. In the distance a furnace is visible and another crowd of people under punishment who are being tortured in divers ways—inpaled, roasted on spits, tied to trees and pierced with arrows or suspended with heavy weights attached to their hands and feet, some being devoured by dogs or vultures, or crucified with nails through their bodies. These bas-reliefs are perfect, the rest are inferior in workmanship and expression. On the east side a number of men, divided into two equal groups, are represented attempting to drag in contrary directions the great serpent or dragon with seven heads, while in the center an angel stands looking on. Many angels are seen floating in the sky above, while fishes, aquatic animals and marine monsters swim about in a sea visible beneath. The angel is seated on the celebrated mountain of Thibet, Phra Soumer, and in different places angels with several heads give assistance to those pulling the serpent. The king of the apes, Sdach Soà, appears here. To the right is a military procession and a combat, the chiefs being mounted on elephants, unicorns, griffins, eagles with peacocks' tails and other fantastic animals, while winged dragons draw the cars. On the northern side is sculptured a combat and procession, with drums, flutes, trumpets, tam-tams, organs said to be Chinese, and a king mounted on the shoulders of a hideous giant. All the chiefs take part in the combat, standing some on tigers, others in cars. Near the central peristyle is a figure of the king, with a long beard; on either side are courtiers with clasped hands.

On the right appears a military procession, a combat, griffins, eagles with peacocks' tails, a dragon with seven heads and a tower on his back; the king is shooting an arrow, standing on the back of a giant with tail, claws and beak.

The first gallery of the second story on the west side is connected with the second by two other smaller galleries, 150 feet long, and which are themselves connected by two colonnades in the form of a cross, supporting two vaulted roofs. Here also are to be seen four rows of square columns, each hewn out of a single block of stone, those in the inside row being fifteen feet high and two thick; those on the outside being eleven feet high and rather smaller at the top than at the base. The little gallery on the right is filled with statues representing persons in the act of worshiping idols, some of these being of wood, others of stone. Many of the statues are fifteen

feet in height, and the greater number of them must be of great age, from their state of dilapidation. In the center is a statue of the famous leprous king, and by his side, in a posture of adoration, are two statues of priests, with faces full of expression. These are real masterpieces. At no great distance is a small statue of his queen.

Here are seen two pavilions of extremely elegant architecture, with porticos and staircases at each end.

There is a second gallery, with four towers at each end, and three porticos and staircases on each side. This gallery is raised on a base twenty feet high, the ledge of which forms a terrace three feet broad.

There are neither columns nor bas-reliefs here, but the walls have imitation windows with twisted bars; the gallery is half dark, receiving very little light except through the doors. There are idols, both of stone and bronze, on pedestals, with their hands held out to receive gifts from their worshipers.

A raised terrace in the central part leads to the foot of the great staircase and forms a cross, the arms of which lead to two small pavilions with four porticos and staircases. The base of this part is admirably executed, both as to general effect and in detail. There are twelve staircases, the four in the middle being twenty feet wide, and having thirty-nine steps.

The building forms a square, each side of which is 190 feet, and at each angle is a tower. A central tower, larger and higher, is connected with the lateral galleries by colonnades covered, like the galleries, with a double roof; and both galleries and colonnades are supported on a base four feet from the floor of the interior courts.

Opposite each of the twelve staircases is a small portico with four columns fifteen feet high, and two in diameter. Windows, similar in form and dimension to those of the other galleries, are on either side, and have twisted bars carved in stone.

In front of each colonnade, with an entrance in the tower, is a dark and narrow chapel, to which there is an ascent of eight steps. These four chapels do not communicate with each other; each contains an idol thirteen feet in height, sculptured in the solid wall, at whose feet is another nearly seven feet long, representing Samana-Kodom sleeping. The central tower is 125 feet high from the pavement of the gallery, and 175 from the basement of the building.

What strikes the observer with not less admiration than the grandeur, regularity, and beauty of these majestic buildings, is the immense size and prodigious number of the blocks of stone of which they are

constructed. In this temple alone are as many as 1,532 columns. What means of transport, what a multitude of workmen, must this have required, seeing that the mountain out of which the stone was hewn is thirty miles distant! In each block are to be seen holes one and one-half inches in diameter and two in depth, the number varying with the size of the blocks; but the columns and the sculptured portions of the building bear no traces of them. According to a Cambodian legend, these are the prints of the fingers of a giant, who, after kneading an enormous quantity of clay, had cut it into blocks and carved it, turning it into a hard and, at the same time, light stone by pouring over it some marvelous liquid.

All the moldings, sculptures, and bas-reliefs appear to have been executed after the erection of the building. The stones are everywhere fitted together in so perfect a manner that you can scarcely see where the joinings are; there is neither sign of mortar nor mark of chisel, the surface being as polished as marble. Was this incomparable edifice the work of a single genius, who conceived the idea, and who watched over the execution of it? One is tempted so to believe; for no part of it is deficient, faulty, or inconsistent with the other. To what epoch does it owe its origin? As before remarked, neither tradition nor inscriptions furnish any certain information upon this point. These latter are a sealed book for want of an interpreter; they may, perchance, throw light on the subject when some European or American savant shall succeed in deciphering them.

### RUINS AT MOUNT BAKHÊNG.

These are the ruins of a temple about 325 feet above the valley, built of limestone, on the top of Mount Bakhêng, situated two miles and a-half north of Angkor-Wât, on the road leading to the town. At the foot of the mountain are to be seen, among the trees, two magnificent lions, one and a half feet in height, and each cut, with the pedestals, out of a single block of stone. Steps, partly destroyed, lead to the top of the mountain, whence there is so beautiful and extensive a view that it is not surprising that a people who have shown so much taste in their buildings, should have chosen it for a site. On one side you gaze upon the wooded plain and the pyramidal temple of Oncor, with its rich colonnades, and the mountain of Crome, beyond the new city, the view losing itself in the waters of the great lake on the horizon. On the opposite side stretches the long chain of mountains, whose quarries, they say, furnished the beautiful stone

used for the temples; and amidst thick forests which extend along the base, is a pretty little lake, which looks like a blue ribbon on a carpet of verdure. All this region is now as lonely and deserted as formerly it must have been full of life and cheerfulness; and the howling of wild animals and the cries of a few birds alone disturb the solitude. Sad fragility of human things! How many centuries and thousands of generations have passed away, of which history, probably, will never tell us anything; what riches and treasures of art will remain for ever buried beneath these ruins; how many distinguished men — artists, sovereigns and warriors — whose names were worthy of immortality, are now forgotten, laid to rest under the thick dust which covers these tombs!

The whole summit of the mountain is covered with a coating of lime, forming a vast smooth surface. At regular intervals are four rows of deep holes, in some of which still stand the columns that formerly supported two roofs, and formed a gallery leading from the staircase to the principal part of the building, and the transverse branches of which were connected with four towers, built partly of stone, partly of brick. Judging from the details of the work and the state of the stone, which in many places crumbles at a touch, this building belongs to a period much anterior to that of many of the other monuments. Art, like science, was then in its infancy; difficulties were surmounted, but not without great efforts of labor and intelligence. The temple of Mount Bakhêng appears to have been raised in the beginning of the civilization of the country, while that of Angkor-Wât was probably its climax.

In the two towers which are least dilapidated, and which the modern worshipers have covered with a thatched roof, the old one having fallen in, are large idols rudely fashioned, and bearing marks of great age. In one of the other towers is a large stone, the inscription on which is still visible; and on the exterior wall is carved the figure of a king with a long beard, the only portion of bas-relief remaining.

A wall surrounds the top of the mountain. Bakhêng has also its Phrâbat, but it is a fac-simile of recent origin. The building is quadrangular, and composed of five stories, each twelve feet high; that at the base is 180 feet square. They form so many terraces, which serve as bases to seventy-two small but elegant pavilions, and they are enriched with moldings, colonnades, and cornices, but no sculpture. The work is perfect, and from its good state of preservation would seem to be of a more recent date than the towers. It is



evident that each of these little pavilions formerly contained an idol. Each side of the square has a staircase seven feet wide, with nine steps to each story, and lions on each terrace. The center of the terrace formed by the last story is only a confused mass of ruins from the fallen towers. Near the staircase are two gigantic blocks of very fine stone, as polished as marble, and shaped like pedestals for statues.

G. D'ABAIN.

NEW YORK, *June* 10, 1875.